UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/736,661	12/14/2000	Arturo A. Rodriguez	A-6280	8279

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EXAMINER
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ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/736,661	RODRIGUEZ ET AL.
	Examiner	Art Unit
	SHAWN AN	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>03 June 2009</u>.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>38,53-55,66-78,80-82 and 85-88</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>38,53-55,66-78,80-82 and 85-88</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Remarks (Appeal Brief)

1.   Applicant's remarks with respect to Appeal Brief as filed on 6/03/09 have been carefully considered/reviewed and 101 rejection pertaining to a method without practical application that produces any useful, tangible, and concrete results have been found to be persuasive, but the Examiner maintains all of the other currently pending rejections.

Therefore, the Examiner has prepared this Office action in preparation for the Examiner's answer if Applicant responds this Office action with Appeal Brief action.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claims 66-70 are rejected under 35 U.S.C. 101 because the preamble of claimed invention is directed to non-statutory subject matter.

Claim 66 comprises non-statutory subject matter, since Applicant identifies/defines a computer readable medium can be any means that can contain, store, communicate, *propagate (such as carrier wave)*, or transport the program for use, and the computer readable medium can be an electronic, magnetic, optical, electromagnetic, infrared, or semiconductor system, apparatus, device, or *propagation medium* (Applicant, page 31, 3rd Para.), wherein the *propagation medium* is considered non-statutory subject matter.

Furthermore, since dependent claims 67-70 are directed to further limitations based on the independent claim 66, claims 66-70 as a whole do not fall within the statutory classes set forth in 35 U.S.C. 101.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5.   Claims 54, 78, 80-81, and 87 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The independent claim 54 contains a subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

On claim 54, the recited "*logic* configured to ...," does not seem to have any support in the Applicant's specification and drawings. Furthermore, since dependent claims 78, 80-81, and 87 are directed to further limitations based on the independent claim 54, claims 54, 78, 80-81, and 87 as a whole do not fall within the statutory classes set forth in 35 U.S.C. 112.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 38, 53-55, 66-78, 80-82, and 85 -88 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacInnis et al (6,570,579 B1) in view of Boyce et al (5,614,952) and Kalra et al (5,953,506).

Regarding claim 38, MacInnis et al discloses a method for adapting to resource constraints of the DHCT (abs.; Fig. 1), comprising:

providing a DHCT (set-top box)(abs.), wherein the DHCT is configured to operate in a non-resource constraint mode (does not have real time constraints) and a resource constraint mode (specific bandwidth requirement mode), and determining whether one of the resource constrained mode or the non-resource restraint mode is to be initiated, and responsive to determining that one of the resource constrained mode is to be initiated, _operating_ the DHCT in the determined resource- constrained mode (col. 55, lines 17-35)(col. 54, lines 36-48; col. 55, lines 8-17);

retrieving a set of reconstructed decompressed (decoded) video frames (Fig. 2, 50) from a first portion of a memory component, wherein the set of video frames corresponds to a video picture (Fig. 2, Memory; col. 5, lines 5-18);

transferring the set of retrieved reconstructed decompressed (decoded) video frames (Fig. 2, 50) to a display device (abs.; television display; Fig. 2, Video Out) and downscaling (52; col. 5, lines 65-67; col. 6, lines 1-9) the video picture.

MacInnis et al does not seem to particularly disclose transferring the set of retrieved reconstructed decompressed video frames to a display device **_while downscaling the video picture in transit to the display device_**, operating in **_a plurality_** of resource constraint modes, and determining whether **_one_** of the resource constrained modes is to be initiated, and responsive to determining that **_one_** of the resource constrained modes is to be initiated, _operating_ the DHCT in the determined resource-constrained mode.

MacInnis et al also does not seem to particularly disclose the memory component storing compressed video data in a distinct second portion.

However, Kalra et al teaches a scalable media delivery system, comprising operating in **_a plurality_** of resource constraint modes, and determining whether **_one_** of the resources constrained modes is to be initiated, and responsive to determining that **_one_** of the resource constrained mode is to be initiated, **_operating_** the determined resource- constrained mode (col. 17, lines 10-67; col. 18, lines 1-24) for reproducing video frames with a resolution that is optimized to the capabilities of the client computer (col. 1, lines 66-67; col. 2, lines 1-3).

Furthermore, Boyce et al teaches digital video decoder comprising retrieving a set of reconstructed decompressed (decoded) video data from a first portion (Fig. 1, 118) of a memory component (114), wherein the memory component stores compressed video data in a distinct second portion (116), wherein the set of video data corresponds to a video picture (col. 4, lines 64-67; col. 5, lines 1-4; col. 10, lines 44-50) for efficiently managing the memory resources such as size or the bandwidth (col. 10, lines 1-4).

Moreover, Boyce et al teaches transferring the set of retrieved reconstructed decompressed (decoded) video data (from Fig. 4, 402 and 403) to a display device (TO DISPLAY) _**while**_ downscaling (Reduced Resolution) the video picture in transit to the display device for implementing picture-in-picture capabilities in a digital TV without incurring the cost of multiple full resolution decoders (Fig. 4, col. 17, lines 66-67; col. 18, lines 1-16; col. 2, lines 37-40).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing a method for adapting to resource constraints of the DHCT as taught by MacInnis et al to incorporate all of the teachings as taught by Kalra et al and Boyce et al so as to transfer the set of retrieved reconstructed decompressed video frames to a display device while downscaling the video picture in transit to the display device for implementing picture-in-picture capabilities in a digital TV without incurring the cost of multiple full resolution decoders, and to operate in a plurality of resource constraint modes and determine whether resource constrained modes is to be initiated, and responsive to determining that one of the resource constrained modes is to be initiated, _operating_ the DHCT in the determined resource- constrained mode for reproducing video images with a resolution that is optimized to the capabilities of the client computer, and also incorporate the memory component storing compressed video data in a distinct second portion for efficiently managing the memory resources such as size or the bandwidth.

Regarding claims 53-54, MacInnis et al discloses a DHCT and a method for adapting to resource constraints of the DHCT (abs.; Fig. 1) comprising:

providing a DHCT (set-top box)(abs.);

logics configured to operate the DHCT in a non-resource constraint mode (does not have real time constraints) and a resource constraint mode (specific bandwidth requirement mode), to determine whether one of the resource constrained mode or the non-resource restraint mode is to be initiated, and <u>responsive to determining that one of the resource constrained mode is to be initiated, initiating the resource constraint mode</u> (col. 55, lines 17-35)(col. 54, lines 36-48; col. 55, lines 8-17);

logic configured to retrieve from a first portion of a memory component (Fig. 1, VIDEO IN), a set of compressed pictures (Fig. 2, Video In entering Video Decoder);

logic configured to store in a second memory component (Fig. 2, Memory ;Fig. 1, element 28; col. 3, lines 1-3) a set of decoded pictures (from 50) corresponding to the set of compressed pictures, each of the set of decoded pictures being at a first spatial resolution (Fig. 3, 52; col. 3, lines 1-3);

<u>logic configured to retrieve from the second memory component the set of reconstructed decoded pictures/frames</u> (Fig. 2, 50; col. 3, lines 1-3); and

<u>logics configured to transfer the set of retrieved decoded video pictures/frames</u> (Fig. 2, 50) <u>to a display device</u> (abs.; television display; Fig. 2, Video Out), <u>and scaling</u> (52; col. 5, lines 65-67; col. 6, lines 1-9) <u>the video pictures/frames</u>.

MacInnis et al does not seem to particularly disclose <u>operating in *a plurality* of resource constrained modes,</u> and <u>determining whether *one* of the resource constrained modes is to be initiated, and responsive to determining that *one* of the resource constrained modes is to be initiated</u>, initiating the resource constraint mode, and transferring a set of retrieved decoded pictures to a display device *while scaling the video picture in transit to the display device to a second spatial resolution **without** storing pictures in a memory component,* wherein the second spatial resolution is smaller than the first spatial resolution.

MacInnis et al also does not seem to particularly disclose the memory component storing and retrieving a set of decoded pictures in <u>a distinct second portion</u>.

However, Kalra et al teaches a scalable media delivery system, comprising operating in *a plurality* of resource constraint modes, and determining whether *one* of the resources constrained modes is to be initiated, and responsive to determining that

one of the resource constrained mode is to be initiated, initiating the resource constraint mode (col. 17, lines 10-67; col. 18, lines 1-24) for reproducing video images with a resolution that is optimized to the capabilities of the client computer (col. 1, lines 66-67; col. 2, lines 1-3).

Furthermore, Boyce et al teaches digital video decoder comprising retrieving a set of compressed pictures/frames from a first portion (Fig. 1, 116) of a memory component (114), wherein the memory component stores decoded video pictures/frames in a distinct second portion (116) of the memory component, wherein the set of video frames corresponding to video pictures/frames (col. 4, lines 64-67; col. 5, lines 1-4; col. 10, lines 44-50), and transferring a set of retrieved decoded pictures/frames (Fig. 4, 402, 403) to a display device (To Display) **while** scaling video pictures/frames in transit to the display device to a second spatial (reduced) resolution **without** storing pictures in a memory component, wherein the second spatial resolution is smaller than the first spatial resolution (from 401 or 402) for efficiently managing the memory resources such as size or the bandwidth (col. 10, lines 1-4) and implementing picture-in-picture capabilities in a digital TV without incurring the cost of multiple full resolution decoders (col. 17, lines 66-67; col. 18, lines 1-16; col. 2, lines 37-40).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing the DHCT and the method for adapting to resource constraints of the DHCT as taught by MacInnis et al to incorporate all of the teachings as taught by Kalra et al and Boyce et al so as to transfer the set of retrieved reconstructed decompressed video frames to a display device while downscaling video frames in transit to the display device to a second spatial resolution without storing pictures in a memory component, wherein the second spatial resolution is smaller than the first spatial resolution for implementing picture-in-picture capabilities in a digital TV without incurring the cost of multiple full resolution decoders, and to operate in a plurality of resource constraint modes and determine whether one of the resource constrained modes is to be initiated, and responsive to determining that one of the resource constrained modes is to be initiated, initiating the resource constraint mode in the DHCT for reproducing video images with a resolution that is optimized to the

capabilities of the client computer, and also incorporate the memory component storing compressed video data in a distinct second portion for efficiently managing the memory resources such as size or the bandwidth.

Regarding claims 55 and 66, MacInnis et al discloses a computer readable medium containing a program for use in a DHCT (col. 5, lines 27-30) and a method for adapting to resource constraints of the DHCT (abs.; Fig. 1), comprising:

providing a DHCT (set-top box)(abs.), wherein the DHCT is configured to operate in a non-resource constraint mode (does not have real time constraints) and a resource constraint mode (specific bandwidth requirement mode), and determining whether the resource constrained mode is to be initiated, and <u>responsive to determining that the resource constrained mode is to be initiated, initiating the resource constraint mode</u> (col. 54, lines 36-48; col. 55, lines 8-35);

receiving, in a memory component (Fig. 1, VIDEO IN), video data comprising a complete picture;

<u>retrieving the video frames from the memory component</u> (Fig. 1,10); and

<u>transferring the retrieved video frames</u> (Fig. 2, 50) <u>to a display device (abs.; television display</u> (Fig. 2, Video Out), <u>and downscaling</u> (52; col. 5, lines 5-67; col. 6, lines 1-9) <u>the video picture</u>.

MacInnis et al does not seem to particularly disclose operating in a plurality of resource constrained modes, and determining whether one of the resource constrained modes is to be initiated, and <u>responsive to determining that one of the resource constrained modes is to be initiated, initiating the resource constraint mode</u>, and <u>transferring the set of retrieved reconstructed decompressed video data to a display device **while** *downscaling the video picture in transit to the display device*</u>.

However, Kalra et al teaches a scalable media delivery system, comprising operating in a plurality of resource constraint modes, and determining whether one of a resource constrained modes is to be initiated, and <u>responsive to determining that one of the resource constrained modes is to be initiated, initiating the resource constraint mode</u> (col. 17, lines 10-55) for reproducing video images with a resolution that is optimized to the capabilities of the client computer (col. 1, lines 66-67; col. 2, lines 1-3).

Furthermore, Boyce et al teaches transferring the set of retrieved reconstructed decompressed (decoded) video frames (from Fig. 4, 402 and 403) to a display device (TO DISPLAY) *while* downscaling (Reduced Resolution) the video picture in transit to the display device for implementing picture-in-picture capabilities in a digital TV without incurring the cost of multiple full resolution decoders (Fig. 4, col. 17, lines 66-67; col. 18, lines 1-16; col. 2, lines 37-40).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing a computer readable medium containing a program for use in the DHCT and a method for adapting to resource constraints of the DHCT as taught by MacInnis et al to incorporate all of the teachings as taught by Kalra et al and Boyce et al so as to operate in a plurality of resource constrained modes, and to determine whether one of the resource constrained modes is to be initiated, and responsive to determining that one of the resource constrained modes is to be initiated, initiating the resource constraint mode for reproducing video images with a resolution that is optimized to the capabilities of the client computer, and to transfer the set of retrieved reconstructed decompressed video frames to a display device while downscaling the video frames in transit to the display device for implementing picture-in-picture capabilities in a digital TV without incurring the cost of multiple full resolution decoders.

Regarding claims 67, 74, 78, and 82, MacInnis et al discloses transmitting graphics data to the display device (Fig. 2, 50; abs.; television display; Fig. 2, Video Out).

Furthermore, Boyce et al teaches graphics data (Fig. 4, 401) being displayed contemporaneously with the scaled video data (402, 403) for implementing picture-in-picture capabilities in a digital TV without incurring the cost of multiple full resolution decoders (col. 2, lines 37-40).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art employing a DHCT for adapting to resource constraints of the DHCT as taught by MacInnis et al to incorporate all of the teaching as taught by Boyce et al for implementing picture-in-picture capabilities in a digital TV without incurring the cost of multiple full resolution decoders.

Regarding claims 68-69, MacInnis et al discloses horizontal and vertical downscaling (col. 44, lines 14-21).

Regarding claim 70, MacInnis et al discloses downscaled video pictures being not stored in the memory component, but rather stored in the memory component of Fig. 2 or Fig. 1, element 28 (col. 3, lines 1-3).

Regarding claim 71, MacInnis et al discloses transmitting graphics data to the display device (Fig. 2, 50; abs.; television display; Fig. 2, Video Out), and Boyce et al teaches graphics data (Fig. 4, 401) being displayed contemporaneously with the scaled video data (402, 403).

Regarding claims 72-73, 75-77, and 80-81, MacInnis et al discloses horizontal and vertical downscaling (col. 44, lines 14-21).

Regarding claims 85-88, MacInnis et al discloses a memory constrained mode (col. 55, lines 17-35) and Kalra et al teaches a bus-bandwidth constrained mode (col. 17, lines 10-24).

Therefore, it would have been considered obvious to a person of ordinary skill in the relevant art to recognize that the above constrained modes could very well be combined to represent a memory and bus-bandwidth constrained mode to accommodate both memory and bus-bandwidth constrained modes as a whole.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to *Shawn An* whose telephone number is 571-272-7324.

9.   The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10.   Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see http://pair-direct.uspto.gov. Should
you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a
USPTO Customer Service Representative or access to the automated information
system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SHAWN AN/

Primary Examiner, Art Unit 2621

9/12/09